DIGITAL EQUIPMENT CORPORATION
education

Accountability

Introduction

Accountability. You've heard about it. You've read about it. Magazines like Nation's Schools, School Management and the Junior College Journal have devoted entire issues to accountability. Organizations like AASA, AEDS and the NEA have had conferences on accountability.

Accountability is known by many names and acronyms. CMI, PPBS, IPI, CAM, Performance Contracting and MAP to name just a few.

Accountability can be different things to different people and different schools. What works in California may not in New York. A district-wide approach in Idaho Falls is different from a school-by-school approach in Panama City.

The point is: Accountability broadly refers to an approach to improve the educational process by objective and sound management. Management which measures educational objectives against the educational process, both people and materials.

Accountability of any type requires that more data than ever before be measured, analyzed and properly used. Generally this task is well suited to a computer. Computers can't set the objectives, but they can measure progress and digest the data.

The DEC Approach

Digital Equipment Corporation (DEC) is the world's leading manufacturer of small computers. Installations number more than 15,000, more than everyone else put together. The combination of unmatched volume and engineering experience makes DEC the price-performance leader in small computers. But there is more. DEC also has unmatched experience in the field of school computers. In secondary schools, our computers have been in classrooms since 1965. Our systems are easy to use, they're powerful, they expand conveniently, yet they're economical.

We've learned that there's no one perfect system for every school. Nor is there one perfect system or package for providing accountability. Hence, as with our classroom computer systems, we offer you the broadest choice of systems for accountability available anywhere.

Descriptions of some approaches that DEC users have taken to the question of accountability are presented inside. One might suit you. But if they don't, write or call us, and we'll help you design one that does.

Oh yes, although DEC is big, you don't deal with a cold, impersonal corporation. You deal with people. All of us were formerly educators. Give us a call -- Val Skalabrin (x3084), Gerry Hornik (x2030), or Dave Ahl (x3475).

MIDDLE COUNTRY SCHOOLS
Centereach, New York

In a unique experiment in Computer Managed Instruction (CMI), an EduSystem 50 is used to efficiently manage the individual curricula of over 2400 junior high school students in Centereach.

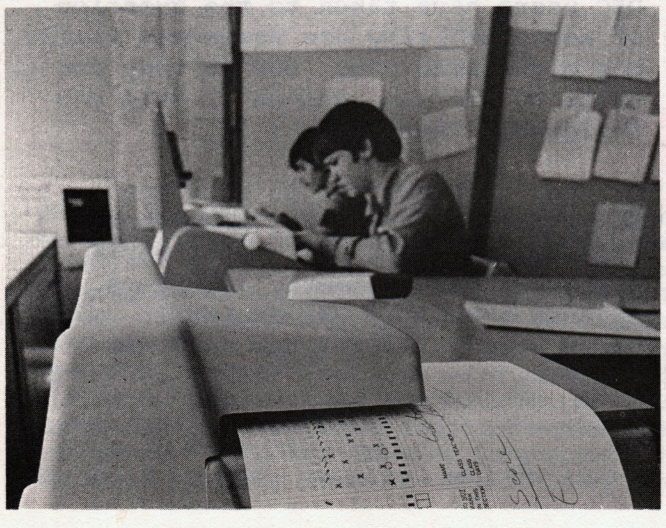
Students are taught both by teachers (about 50% of the time) and by executing frames in programmed instructional textbooks. Every 200 or 300 frames the student takes an achievement test (using an optical mark test form).

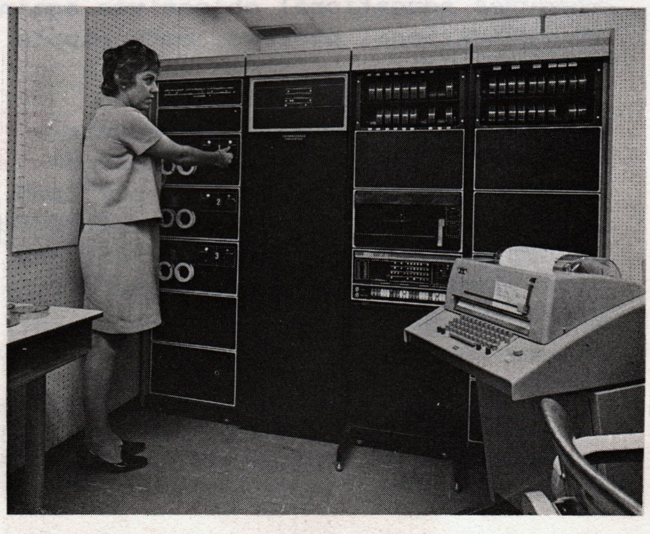
The computer immediately grades his test in the classroom and keeps a record of his score. Based on his performance, he may go on with the next set of frames, do a set of remedial frames or receive tutorial help from a teacher. In the latter two cases, he could ultimately retake a similar, but different, achievement test.

Each student proceeds at his own pace until he has completed all of the instructional "strands" which may, depending upon the material used, cover from one to six years in one or more subject areas.

In addition to scoring an recording the tests, the computer also keeps a comprehensive record of all students, provides periodic reports on progress and achievement, identifies exceptional cases and analyzes tests and test questions. It is probably the most thorough measuring device for "accountability" when used in conjunction with pre-determined behavioral objectives and validated tests.

The EduSystem 50 also provides terminals for remedial drill and practice, student problem solving and simulation exercises.





OAKLEAF SCHOOL
Pittsburgh, Pennsylvania

Of the many projects going on at the Learning Research and Development Center at the University of Pittsburgh, one of the most significant is a project to develop and implement a system of Individually Prescribed Instruction (IPI) using a PDP-15. The objective of IPI is to produce an educational environment which would be highly responsive to differences among children. Individualization provides for individualized lesson plans, individualized materials and instruction techniques, and achievement of a required level of subject matter mastery for each student.

At the beginning of the school year, each student is given a series of placement tests in mathematics, reading and science to assess entering behavior and determine starting level of work. As a result of diagnostic retests, a series of learning experiences uniquely suited to the individual's competencies is prescribed. Materials include worksheets, individual readers, programmed texts, taped lessons and other materials. As the student progresses through each set of experiences, his achievement is evaluated in terms of his performance on the lesson material completed and a series of curriculum-embedded tests.

Upon completion of a unit, if a student demonstrates mastery on a posttest, he goes on to a new unit, otherwise, a new prescription is written for those objectives which are lacking. Through this process of continual re-evaluation, a student progresses from one learning task to another at a rate commensurate with his needs and abilities.

GREECE CENTRAL SCHOOL DISTRICT
Rochester, New York

A unique Mathematics Assessment Program (MAP) is being used to identify the strengths and weaknesses of the existing mathematics program and show where changes should be made. All students in the program are assessed periodically during the school year over three to six week intervals. Tests generally have multiple choice items relative to specific course objectives at each grade level. Three types of results are generated: (1) monitor data about the overall program, (2) mastery data on individual students and (3) diagnostic data about specific instructional objectives. Teacher's involvement in assessment is high because they make most of the decisions.

Because of the large numbers of tests to be corrected and analyzed, a mini-computer, a PDP-12, is a vital part of the project. The PDP-12 was selected because of its proven dependability, ease of programming and ease of operation.

During 1968-69, the system was piloted in four elementary schools. It is currently being phased into all elementary and junior high schools involving over 400 teachers and 10,000 students.

OTHER PROJECTS

Several other projects are underway using DEC computer systems. SPEDD at Half Hollow Hills Schools, Dix Hills, N.Y. in conjunction with the State University of New York (SUNY) at Stony Brook and the University of Massachusetts at Amherst. Florida State University at Tallahasse is undertaking a CMI research project under the direction of Dr. Duncan Hansen. Scores of schools use the comprehensive test grading and analysis program on EduSystem 30. The fact is, just about every major project in accountability, whether operational or experimental, uses a DEC computer system. If you're currently a DEC user, fine; if not, we'd like to add you to the ranks.

EXAMPLES OF
DEC EDUCATIONAL COMPUTER SYSTEMS

		Purchase Price	Monthly Lease	Monthly Maint.
EduSystem 25 PDP8/e Computer 12k Memory DECtape (2) 1 to 8 Terminals	Small time-sharing system with program and dat files for up to 8 users.	$ 30,640	$ 674 (5-user system)	$ 435
EduSystem 40/EDP PDP8/e Computer 12k Memory DECtape (4) Optical Card Reader DECwriter	Administrative EDP system for master files, attendance, grade reporting, payroll, etc. with up to 8 terminals for instructional use.	$ 40,935	$ 791	$ 299
EduSystem 50 PDP8/e Computer 12-32k Memory 262k Disk DECtape Up to 16 terminals	Total instructional and administrative system. Resource sharing, multi-language, timesharing for up to 16 users.	$ 85,070	$1872 (16-user system)	$ 872
PDP-12/30 PDP12 Computer 8k Memory DECtape (2) CRT Display A/D Converter	Computer system with dual PDP 8 and LINC control sets. Software for interactive data retrival and analysis.	$ 35,900	$ 790	$ 265
Batch-15 PDP 15/50 Computer 24k Memory 1.4 Million Word Disk Line Printer Card Reader	Batch processing system with extensive data analysis capability and commercial subroutines. (Similar to IBM 360/44).	$105,000	$2310	$ 820

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